adjusting average optical power per single wavelength channel of shorter-wavelength-band light among said plurality of optical adjusting means becomes larger than an output of optical adjusting means for adjusting average optical power per single wavelength channel of longer-wavelength-band light among said plurality of optical adjusting means.

3. (ONCE AMENDED) The optical amplifying apparatus according to claim 1, wherein said controlling means further controls the outputs of said respective optical adjusting means so that average optical per single wavelength channel of the respective wavelength bands at a predetermined point will become approximately identical when output light of the wavelength-multiplexing means travels to the predetermined point.

4. (ONCE AMENDED) The optical amplifying apparatus according to claim 1, wherein said controlling means further controls the outputs of said respective optical adjusting means so that powers calculated by subtracting noise powers in the respective optical adjusting means from average optical per single wavelength channel of said respective wavelength bands at a predetermined point will become approximately identical when output light of the wavelength-multiplexing means travels to the predetermined point.

7. (ONCE AMENDED) The optical amplifying apparatus according to claim 2, wherein said controlling means determines a difference between the output of said optical adjusting means for adjusting the average optical power per single wavelength channel of said shorter-wavelength-band light and the output of said optical adjusting means for adjusting the average optical power per single wavelength channel of said longer-wavelength-band light based on at least one of stimulated Raman scattering in an optical transmission line connected to an output side of said optical amplifying apparatus, a loss in said optical transmission line, a loss in said wavelength-demultiplexing means, and a loss in said wavelength-multiplexing means.

16. (ONCE AMENDED) An optical sending apparatus comprising:

a plurality of optical sending means provided for each predetermined wavelength band, and for generating WDM optical signals in the respective wavelength bands;

a plurality of optical adjusting means connected to said respective optical sending means, for adjusting optical powers of light beams;

wavelength-multiplexing means for wavelength-multiplexing outputs of said respective optical adjusting means for the respective wavelength bands; and

controlling means for performing control so that an output of optical adjusting means for adjusting average optical power per single wavelength channel of shorter-wavelength-band light among said plurality of optical adjusting means becomes larger than an output of optical adjusting means for adjusting average optical power per single wavelength channel of longer-wavelength-band light among said plurality of optical adjusting means.

17. (ONCE AMENDED) The optical sending apparatus according to claim 16, wherein said controlling means further controls the outputs of said respective optical adjusting means so that average optical per single wavelength channel of the respective wavelength bands at a predetermined point will become approximately identical when output light of said wavelength-multiplexing means travels to the predetermined point.

18. (ONCE AMENDED) The optical sending apparatus according to claim 16, wherein said controlling means further controls the outputs of said respective optical adjusting means so that powers obtained by eliminating noise powers in said respective optical adjusting means from average optical per single wavelength channel of the respective wavelength bands at a predetermined point will become approximately identical when output light of said wavelength-multiplexing means travels to the predetermined point.

29. (ONCE AMENDED) An optical transmission system comprising:

an optical sending apparatus for generating an optical signal of a plurality of wavelength bands;

an optical transmission line for transmitting the generated said optical signal;

an optical receiving apparatus for receiving and processing said optical signal transmitted through said optical transmission line; and

at least one optical amplifying apparatus provided on the optical transmission line, comprising:

wavelength-demultiplexing means for wavelength-demultiplexing said optical signal on a wavelengt band basis;

a plurality of optical adjusting means for adjusting optical powers of each said optical signal in the respective wavelength bands, that are output from said wavelength-

demultiplexing means;

wavelength-multiplexing means for wavelength-multiplexing outputs of said respective optical adjusting means; and

controlling means for performing control so that an output of optical adjusting means for adjusting average optical power per single wavelength channel of shorter-wavelength-band light among said plurality of optical adjusting means becomes larger than an output of optical adjusting means for adjusting average optical power per single wavelength channel of longer-wavelength-band light among said plurality of optical adjusting means.

C5

30. (ONCE AMENDED) The optical transmission system according to claim 29, wherein said controlling means of said optical amplifying apparatus further controls the outputs of said respective optical adjusting means so that average optical power per single wavelength channel of the optical signals in the respective wavelength bands at a predetermined point will become approximately identical when an output optical signal of said optical amplifying apparatus travels to the predetermined point.

31. (ONCE AMENDED) The optical transmission system according to claim 29, wherein said controlling means of said optical amplifying apparatus further controls the outputs of said respective optical adjusting means so that powers obtained by eliminating noise powers in said respective optical adjusting means from average optical power per single wavelength channel of the optical signals in said respective wavelength bands at a predetermined point will become approximately identical when an output optical signal of said optical amplifying apparatus travels to the predetermined point.

37. (TWICE AMENDED) A method of amplifying light comprising:

C6

amplifying light in a longer-wavelength band among a plurality of wavelength bands;

amplifying light in a shorter-wavelength band among said plurality of wavelength bands so that it will have average optical power per single wavelength channel that is larger than average optical power per single wavelength channel of the amplified light in the longer-wavelength band; and

wavelength-multiplexing light beams of the plurality of wavelength bands.

38. (TWICE AMENDED) The optical amplifying method according to claim 37, further comprising determining a difference between an amplification output of the light in said shorter-wavelength band and an amplification output of the light in said longer-wavelength band so that average optical power per single wavelength channel of the respective wavelength bands at a predetermined point will become approximately identical when wavelength-multiplexed light of the said plurality of wavelength bands travels to the predetermined point, and wherein

said amplifying amplifies said light in the shorter-wavelength band so that it will have average optical power per single wavelength channel that is larger than average optical power per single wavelength channel of amplified light in said longer-wavelength band by said difference.

C6

39. (TWICE AMENDED) A method of amplifying light comprising:

generating a plurality of optical signals having different optical powers;

generating a plurality of WDM optical signals by wavelength-multiplexing said plurality of optical signals on a wavelength band basis;

amplifying a WDM optical signal in a longer-wavelength band among the plurality of WDM optical signals;

controlling an optical gain of respective said wavelength bands so that it will have average optical power per single wavelength channel that is larger than average optical power per single wavelength channel of the amplified WDM optical signal in said longer-wavelength band; and

wavelength-multiplexing said plurality of WDM optical signals.

40. (TWICE AMENDED) The optical amplifying method according to claim 39, further comprising determining a difference between an amplification output of the WDM optical signal in said shorter-wavelength band and an amplification output of the WDM optical signal in said longer-wavelength band so that average optical power per single wavelength channel of the respective WDM optical signals at a predetermined point will become approximately identical when a wavelength-multiplexed optical signal of the plurality of WDM optical signals travels to the predetermined point, and wherein

said amplifying amplifies the WDM optical signal in said shorter-wavelength band so that it will have average optical power per single wavelength channel that is larger than average optical power per single wavelength channel of amplified light in the longer-wavelength band by

said difference.

41. (TWICE AMENDED) A method of inputting light comprising:

making average optical power per single wavelength channel of a WDM optical signal in a shorter-wavelength band larger than average optical power per single wavelength channel of a WDM optical signal in a longer-wavelength band among a plurality of WDM optical signals in respective wavelength bands; and

inputting said plurality of WDM optical signals in the respective wavelength bands to an optical transmission line.

Please ADD the following NEW claims:

42. (NEW) An optical amplifying apparatus comprising:

a wavelength demultiplexing unit to wavelength demultiplex optical signal light into light beams of respective wavelength bands;

a plurality of optical adjusting units provided for the respective wavelength bands, to individually adjust average optical power per single wavelength channel of the light beams;

a wavelength multiplexing unit to wavelength multiplex outputs of the respective optical adjusting units; and

a control unit to perform control of the optical adjusting units so that an output of a respective optical adjusting unit for adjusting average optical power per single wavelength channel of shorter-wavelength-band light among the plurality of optical adjusting units becomes larger than an output of a respective optical adjusting unit for adjusting average optical power per single wavelength channel of longer-wavelength-band light among the plurality of optical adjusting units.

43. (NEW) An optical transmission system comprising:

an optical sending device to generate optical signal light of a plurality of wavelength bands;

an optical transmission line to transmit the optical signal light;

an optical receiving device to receive and process the optical signal light transmitted through the optical transmission line; and

at least one optical amplifying device provided on the optical transmission line,

comprising:

a wavelength demultiplexing unit to wavelength demultiplex the optical signal light into light beams of the respective wavelength bands;

a plurality of optical adjusting units provided for the respective wavelength bands, to individually adjust optical powers of the light beams;

a wavelength multiplexing unit to wavelength multiplex outputs of the respective optical adjusting units; and

a control unit to perform control of the optical adjusting units so that an output of a respective optical adjusting unit for adjusting average optical power per single wavelength channel of shorter-wavelength-band light among the plurality of optical adjusting units becomes larger than an output of a respective optical adjusting unit for adjusting average optical power per single wavelength channel of longer-wavelength-band light among the plurality of optical adjusting units.

44. (NEW) The optical amplifying apparatus according to claim 1, wherein

said controlling means performs control based on a result of calculating an average output power per single wavelength channel by dividing a total optical output power of each monitored adjusting means by a number of transmitted wavelengths in a wavelength band of an optical signal output from the wavelength-multiplexing means, notified from a predetermined point on an optical path, and comparing the product between each wavelength band.

45. (NEW) The optical amplifying apparatus according to claim 1, wherein

said controlling means controls output power per each single wavelength channel in the shorter wavelength band to be larger than output power per each single wavelength channel in the longer wavelength band, by relatively changing a total output power of the optical adjusting means when a change in number of transmitted wavelengths occur.